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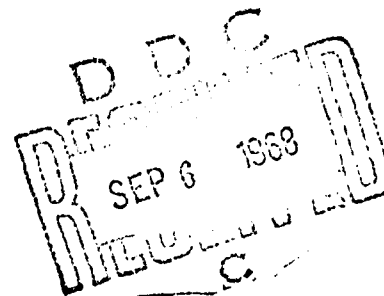
TRANSLATION NO. 1326

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DATE: 23 March 1965

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PSEUDO-TUBERCULOSIS IN THE MONKEY

by

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Translation of an article from C. R. Soc. Biol., Vol. 136,
1942, pp. 483-484.

Pseudo-tuberculosis or rodentiose is a virulent and inoculable disease which attacks mainly rodents and birds. Rarely is it found in man and medical literature has barely 15 authentic observations of it. In exceptional cases, it affects monkeys as revealed by Saenz [See Note 1] in Corcopithecus callitrichus, by Saenz and Costil [See Note 2] in a Mangabey monkey, and by Christiansen [See Note 3]. Nevertheless, pseudo-tuberculosis can be reproduced experimentally in monkeys with ease; this is shown in the tests of Klein [See Note 4] and Saenz [See Note 1].

[Note 1]: Saenz, C.R. de la Soc. Biol., 1930, No. 104, p. 1189.

[Note 2]: Saenz et Costil. C.R. de la Soc. Biol., 1932, No. 110, p. 449.

[Note 3]: Christiansen, Meded. for Dyrlaeger, 1936, No. 47, p. 353.

[Note 4]: Klein, Zentr. Bakt., 1899, No. 26, p. 260.

Recently, we have succeeded in bringing this disease to light with the autopsy of a monkey Macacus rhesus which came from the Zoological Gardens of Marseille (Jardin zoologique de Marseille). The circumstances of death were unknown. The autopsy revealed, aside from a general ganglionic hypertrophy, the presence of nodules of various sizes (pea, hazelnut, walnut...) on a level with the lungs, liver and spleen. The histological examination of the hepatic pseudo-tubercles showed an abundant infiltration by monocytes and lymphocytes together with rare giant cells of Langhans' type. In a more advanced state of the disease the nodule has a necrotic center, rich in eosinophile cells, as was recently described by Chretien's [See Note 5] work with zoogloic

tuberculosis in the rabbit. The lungs are affected in the following manner: the internodular pulmonary tissue is attacked by an obvious catarrhal alveolitis, while the fine bronchial branches are filled with inflammatory cells.

[Note 5]: Chretien, Hyg. viande et lait, 1912, No. 6, p. 434.

The cultures, made from specific nodules, permitted us to isolate the streptobacillus of Vignal and Malassez: Pasteurella pseudotuberculosis.

The microorganism appears as a very short bacillus with rounded ends, aero-anaerobic and moribund only at 20° C; it is not colored by the Gram method and does not produce indol. On ordinary agar, it produces small colonies, rounded and lightly opalescent, containing many coccobacillary types about one μ in length. Broth is turbid in a homogenous manner and produces multiple streptobacillary forms; litmus milk shows neither color change nor coagulation; neutral red agar shows neither gas nor fluorescence. Lead subacetate agar does not blacken and gelatine is not liquified.

The microbe has a characteristic action in regard to different sugar media. In 48 hours it changes the color of glucose, levulose, maltose, mannite, galactose, mannose, arabinose, xylose and rhamnose media [See Note 6]; sucrose media changed at first, returns to blue again; on the other hand, lactose, inuline, dextrine dulcose and starch show no reaction.

[Note 6]: Rhamnose media are the choice media to differentiate between the human type bacillus and the rodent pseudo-tubercular type bacillus.

The infected monkey lived with three other Macacus rhesus in the same cage of the monkey house in the zoo. We tested, by allergic methods, to see if these animals were infected by their congener. The three were inoculated in the dermis of the right arm, with 0.1 cc of steril broth as a control and in the dermis of the left arm with 0.1 cc of a three week old culture previously heated for 60 min. at 60° C. We were unable to find the smallest allergic reaction or the slightest manifestation of hypersensibility. The absence of pseudo-tubercular infection was verified further when these three animals died 15 months later.

In summary, we present here, the third French observation of pseudo-tuberculosis in the monkey (Macacus rhesus), due to the presence in the organism of the Streptobacillus of Vignal and Malassez: Pasteurella pseudotuberculosis.